

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Stephen J. Todd et al.
Serial No.: 10/761826
Confirmation No.: 4078
Filed: January 21, 2004
For: METHODS AND APPARATUS FOR EXTENDING A
RETENTION PERIOD FOR DATA IN A STORAGE
SYSTEM

Examiner: Dare, R.A.
Art Unit: 2186

REQUEST FOR RECONSIDERATION

MAIL STOP AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Final Office Action dated July 30, 2007, Applicants respectfully request reconsideration. To further the prosecution of this application, each of the rejections set forth in the Office Action has been carefully considered as is addressed below. The application as presented is believed to be in condition for allowance.

I. Claim Rejections Under 35 U.S.C. §102

Claims 1-21 stand rejected under 35 U.S.C. §102 as allegedly being anticipated by U.S. Patent No. 6,170,013 (“Murata”). Applicants respectfully traverse this rejection.

A. Discussion of Murata

Murata teaches a proxy server which is “operative to receive information from the data network on behalf of and in response to a client request, and to provide the requesting client with the received information (Murata, col. 2, lines 64-67).” Murata’s proxy server is further adapted to “modify an expiration time of the received information and store the received information in

the storage device ... until the modified expiration time has expired (Col. 3, lines 2-7).” As described in Murata’s disclosure, Murata’s proxy server is adapted to receive a request from a client intended for a host (e.g., a web server) for a copy of desired information (e.g., a web page), and, in response to the request, either retrieve a cached copy of the desired information from the cache of the proxy server and return the cached copy to the client, or retrieve a copy of the desired information from the host and return the host’s copy to the client (Col. 4, line 64 – col. 5, line 4). Murata describes that some hosts may include as part of a response to a request for data an indicator of the expiration date of the content, such that a proxy server may be able to determine when data in the proxy server cache is “stale (Col. 7, lines 56-61).” Upon receiving a request for information from a client, Murata’s proxy server may determine if the cached copy of the information is stale and, if so, may request from the host a new copy of the information. If there are differences between the new copy and the cached copy (i.e., the revision date of the information has changed) then the proxy server will store the new copy in the proxy server cache and return the new copy to the client (Col. 10, lines 36-44). If there are no differences between the cached copy and the new copy, then the proxy server may extend the expiration date of the cached copy a predetermined period of time as set by an administrator of the proxy server (Col. 10, lines 9-43).

B. Claims 1-6

Independent claim 1 is directed to a method of processing data in a computer system comprising at least one host and at least one storage system. The method comprises acts of: (A) sending to the at least one storage system, from the at least one host, a request to store a unit of data, the request including a retention period for the unit of data; (B) after expiration of at least some of the retention period, determining if a specified event has occurred; (C) when it is determined in the act (B) that the specified event has not occurred, extending the retention period for the unit of data; and (D) repeating the acts (B) and (C) until it is determined in the act (B) that the specified event has occurred.

Murata does not teach or suggest all limitations of claim 1. For example, Murata does not teach or suggest “sending to the at least one storage system a request to store a unit of data.” As should be appreciated from Murata’s disclosure and from the brief description of Murata above,

the host described by Murata in FIG. 1 has no knowledge of the proxy server of Murata which is storing the data. The proxy server of Murata (the network interface device of FIG. 1) intercepts a request for desired information from a client (e.g., a personal computer executing a web browser and requesting a particular web page) and may examine its cache for the desired information. If the desired information is in the cache, the proxy server may return the cached copy to the client; otherwise, the proxy server requests the desired information from the host (e.g., a web server), stores the information in the proxy server cache, and returns the desired information to the client. At no point does the host initiate communication with the proxy server and/or send to the proxy server a request to store a unit of data. Rather, the host merely treats the proxy server as any other client and transmits data in response to a request for the data, without knowing how the data will be used by the client (including whether or not the client will store the data). Thus, the host does not send requests to store data to the proxy server. Rather, the host receives requests from the proxy server for content and returns, in response to the request, the data specified in the request. The host does not send a request to the proxy server to store any content, but rather responds to requests from the proxy server to return specified data. Thus, Murata cannot be said to teach or suggest “sending to the at least one storage system, from the at least one host, a request to store a unit of data.”

Therefore, for at least these reasons, claim 1 patentably distinguishes Murata and is in allowable condition. Claims 2-6 depend from claim 1 and, based on their dependency, are allowable for at least the same reasons.

B. Claim 7

Independent claim 7 is directed to a method of ensuring that a unit of data, stored on a computer system, is retained until a specified period after the occurrence of an event. The computer system comprises at least one host and at least one storage system that stores the unit of data. The method comprising acts of: (A) establishing an initial retention period for the unit of data, wherein the initial retention period is less than or equal to the specified period; (B) after the expiration of at least some of the initial retention period, determining whether the specified event has occurred; (C) when it is determined in the act (B) that the specified event has not occurred, performing acts of: (C1) extending the retention period for the unit of data for an extended period

that is less than or equal to the specified period; and (C2) after the expiration of at least some of the extended retention period, determining whether the specified event has occurred and when the specified event has not occurred, returning to the act (C1), and when the specified event has occurred, proceeding to the act (D); and (D) when it is determined in either of the acts (B) or (C2) that the specified event has occurred at a time, extending the retention period so that the retention period expires the specified period after the time at which the event occurred.

Murata does not teach or suggest all limitations of claim 7. For example, Murata does not teach “a method of ensuring that a unit of data, stored on a computer system, is retained until a specified period after the occurrence of an event” or when it is determined that the specified event has occurred at a time, “extending the retention period so that the retention period expires the specified period after the time at which the event occurred.” The Office Action asserts that Murata teaches that a “specified event” may be detecting that the host has a newer copy of the cached information (Office Action, Page 2). However, it should be appreciated from Murata’s disclosure and the brief description of Murata above that Murata teaches that if it is determined that a host has a newer copy of the cached information, then the newer copy of the information is stored in the proxy server cache with the updated expiration date (Col. 10, lines 36-43). There is no teaching or suggestion in Murata of then “extending the retention period” of the expired cached version “so that the retention period expires the specified period after the time at which the event occurred.” Rather, in Murata, if it is determined that the host stores a newer copy of some cached information, the proxy server simply caches the newer information. Murata does not disclose or suggest that the proxy server retains the older version of the information for a specified time after occurrence of the event.

Therefore, for at least these reasons, independent claim 7 patentably distinguishes over Murata and is in allowable condition.

C. Claims 8-21

Each of the other independent claims (i.e., claims 8, 14, and 15) include limitations that similarly distinguish over Murata. For example:

independent claim 8 recites, *inter alia*, “sending to the at least one storage system, from the at least one host, a request to store a unit of data, the request including a retention period for the unit of data;”

independent claim 14 recites, *inter alia*, “when it is determined ... that the specified event has occurred at a time, extending the retention period so that the retention period expires the specified period after the time at which the event occurred;” and

independent claim 15 recites, *inter alia*, “first means for sending to the at least one storage system, a request to store a unit of data, the request including a retention period for the unit of data.”

As discussed above in conjunction with claims 1, in Murata the host merely treats the proxy server as any other client and transmits data in response to a request for the data, without knowing how the data will be used by the client (including whether or not the client will store the data). Thus, Murata cannot be said to teach or suggest “sending to the at least one storage system a request to store a unit of data.”

As discussed above in conjunction with claim 7, in Murata if it is determined that a host has a newer copy of the cached information, then the newer copy of the information is stored in the proxy server cache with the updated expiration date (Col. 10, lines 36-43). There is no teaching or suggestion in Murata of then “extending the retention period” of the expired cached version “so that the retention period expires the specified period after the time at which the event occurred.”

Therefore, for at least these reasons, claims 8, 14, and 15 patentably distinguish over Murata and are in allowable condition. Claims 9-13 and 16-21 depend from claims 8 and 15, respectively, and, based on their dependence, are allowable for at least the same reasons.

CONCLUSION

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue, or comment set forth in the Office Action does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Furthermore, nothing in this paper should be construed as intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify any concession of unpatentability of the claim prior to its amendment.

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' representative at the telephone number indicated below to discuss any outstanding issues relating to the allowability of the application.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Dated: October 2, 2007

Respectfully submitted,

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